

**Notice of Allowability**

Application No.

09/992,523

Examiner

Leslie Wong

Applicant(s)

SINCLAIR, PAUL L.

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2167

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/20/2004.
2. ☒ The allowed claim(s) is/are 1-4, 6-13, 15-21, and 23-28 now renumbered as 1-25.
3. ☒ The drawings filed on 14 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                        |
|   | 9. <input type="checkbox"/> Other _____  |

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John D. Cowart on May 12, 2005.

The application has been amended as follows:

Cancel claims 5, 14, and 22.

In claim 1, line 7, after "contexts", insert --where step a comprises the steps of:

- i. creating an empty file context for a populated partition;
- ii. finding the lowest first value associated with a row in that partition;
- iii. storing the location data and the first value for the row having the lowest first value in the file context for that partition; and
- iv. repeating steps i – iii until file contexts have been created for all populated partitions –

In claim 9, line 16, after "contexts", Insert – where step a comprises the steps of:

- i. creating an empty file context for a populated partition;
- ii. finding the lowest first value associated with a row in that partition;
- iii. storing the location data and the first value for the row having the lowest first value in the file context for that partition; and

iv. repeating steps i – iii until file contexts have been created for all populated partitions –

In claim 18, line 8, after “contexts”, insert –where step a comprises:

- i. creating an empty file context for a populated partition;
- ii. finding the lowest first value associated with a row in that partition;
- iii. storing the location data and the first value for the row having the lowest first value in the file context for that partition; and
- iv. repeating steps i – iii until file contexts have been created for all populated partitions –

Add claims 26-28 as below:

26. (New) A method for selecting rows from a partitioned database table, comprising the steps of:

- a. creating a file context, which stores at least location data for a row and a first value associated with the row, for each populated partition of the partitioned database table;
- b. determining the lowest first value stored by the file contexts;
- c. identifying rows with a particular first value by reading the file contexts; and
- d. updating each file context to store location data and the first value for a row in the associated partition with a first value equal to or greater than a desired first value, where updating each file context comprises:
  - i. examining file contexts in order of the populated partitions until a file context storing a first value less than the desired first value is selected;
  - ii. if the partition corresponding to the selected file context contains at least one row having the desired first value, storing the location data and

- first value for the first such row in the file context;
- iii. if the partition corresponding to the selected file context contains no row having the desired first value and at least one row having a first value greater than the desired first value, storing the location data and first value for the first such row in the file context;
- iv. if the partition corresponding to the selected file context contains no row having the desired first value and no row having a first value greater than the desired first value, removing the file context; and
- v. repeating steps i – iv until all file contexts for the table have been examined.

27. (New) A database system for selecting rows from a partitioned database table, the partitioned database table including rows and columns and being divided into partitions and at least one of the partitions in the table being populated by one or more rows, the system comprising:

- one or more nodes;
  - a plurality of CPUs, each of the one or more nodes providing access to one or more CPUs;
  - a plurality of processes, each of the one or more CPUs providing access to one or more virtual processes; each process configured to manage data, including the partitioned database table, stored in one of a plurality of data-storage facilities; and
  - a partitioned table access component configured to select rows from the table by:
    - a. creating a file context, which stores at least location data for a row and a first value associated with the row, for each populated partition;
    - b. determining the lowest first value stored by the file contexts; and
    - c. identifying rows with a particular first value by reading the file contexts;
- where the partitioned table access component is configured to select rows from the table by updating each file context to store location data and the first

value for a row in the associated partition with a first value equal to or greater than a desired first value; and where updating each file context comprises:

- i. examining file contexts in order of the populated partitions until a file context storing a first value less than the desired first value is selected;
- ii. if the partition corresponding to the selected file context contains at least one row having the desired first value, storing the location data and first value for the first such row in the file context;
- iii. if the partition corresponding to the selected file context contains no row having the desired first value and at least one row having a first value greater than the desired first value, storing the location data and first value for the first such row in the file context;
- iv. if the partition corresponding to the selected file context contains no row having the desired first value and no row having a first value greater than the desired first value, removing the file context; and
- v. repeating steps i – iv until all file contexts for the table have been examined.

28. (New) A computer program, stored in a tangible medium, for selecting rows from a partitioned database table, the program comprising executable instructions that cause a computer to:

- a. create a file context, which stores at least location data for a row and a first value associated with the row, for each populated partition of the partitioned database table;
- b. determine the lowest first value stored by the file contexts;
- c. identify rows with a particular first value by reading the file contexts; and
- d. update each file context to store location data and the first value for a row in the associated partition with a first value equal to or greater than a desired first

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value;

where step d comprises:

- i. examining file contexts in order of the populated partitions until a file context storing a first value less than the desired first value is selected;
- ii. if the partition corresponding to the selected file context contains at least one row having the desired first value, storing the location data and first value for the first such row in the file context;
- iii. if the partition corresponding to the selected file context contains no row having the desired first value and at least one row having a first value greater than the desired first value, storing the location data and first value for the first such row in the file context;
- iv. if the partition corresponding to the selected file context contains no row having the desired first value and no row having a first value greater than the desired first value, removing the file context; and
- v. repeating steps i – iv until all file contexts for the table have been examined.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Wong whose telephone number is (571) 272-4120. The examiner can normally be reached on Monday to Friday 9:30am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leslie Wong  
Patent Examiner  
Art Unit 2167

LW  
May 13, 2005